

Air Transportation

(SIC 45)

SIGNIFICANT POINTS

- Although flight crews—pilots and flight attendants—are the most visible occupations in this industry, over three-fourths of all employees work in ground occupations.
- Senior pilots for major airlines are among the highest paid workers in the Nation.
- Except for pilots, most workers in this industry are trained to do their jobs after they are hired.
- A significant number of workers are unionized.

Nature of the Industry

The rapid development of air transportation has increased the mobility of the population and created thousands of job opportunities. The air transportation industry involves many activities. Most familiar are the major airlines, which provide transportation for passengers and cargo, and airports, which provide the many ground support services required by aircraft, passengers, and cargo. Air taxi companies and commuter airlines also provide commercial transportation, such as passenger and cargo service, often to and from small airports not serviced by the airlines. Other companies provide air courier services—which furnish air delivery for individually addressed letters, parcels, and packages—and helicopter and sightseeing airplane services for tourists. This industry also includes services related to air transportation, such as aircraft repair, cleaning, and storage.

The air transportation industry has been through a period of adjustment and turmoil since the start of Federal deregulation in the late 1970s. Nonetheless, most of the 1980s was a prosperous period for the industry, marked by high earnings and rapid job growth as new carriers entered the industry. The reduction in air travel that accompanied the recession of the early 1990s exposed many companies to problems of overcapacity and high labor costs. Intense competition—including destructive fare cutting—created a great deal of instability, causing many airlines to go out of business and many persons to lose their jobs.

The air transportation industry has recovered from the severe financial losses it suffered during the early 1990s. Smaller regional and commuter airlines, which have lower costs than larger airlines, have emerged in recent years to primarily serve shorter routes. Major airlines are regaining profitability and hope to achieve long-term stability by reducing capacity and distribution and marketing costs, using their aircraft and crews more efficiently, and reducing their labor costs through negotiations with the major labor unions that represent air transportation workers.

Working Conditions

Working conditions vary widely, depending on the occupation. Although most employees work in fairly comfortable surroundings, such as offices, terminals, or airplanes, mechanics and others who service aircraft are subject to

noise, dirt, and grease, and sometimes work outside in bad weather.

In 1997, the air transportation industry had 16.4 injuries and illnesses per 100 full-time workers, compared to 7.1 throughout private industry. Virtually all work-related fatalities resulted from transportation accidents.

Because airlines operate flights at all hours of the day and night, some workers often have irregular hours or schedules. Flight and ground personnel may have to work at night, on weekends, or holidays. Flight personnel may be away from their home bases frequently. When they are away from home, the airlines provide hotel accommodations, transportation between the hotel and airport, and an allowance for meals and expenses. Pilots and flight attendants employed outside the major airlines also may have irregular schedules.

Flight crews, especially those on international routes, often suffer jet lag—disorientation and fatigue caused by flying into different time zones. Some personnel may work under pressure to meet flight schedules.

Employment

The air transportation industry provided 1.2 million jobs in 1998. Most employment is found in larger establishments—nearly 9 out of 10 jobs are in establishments with 50 or more workers. However, over half of all establishments employ fewer than 10 workers (chart).

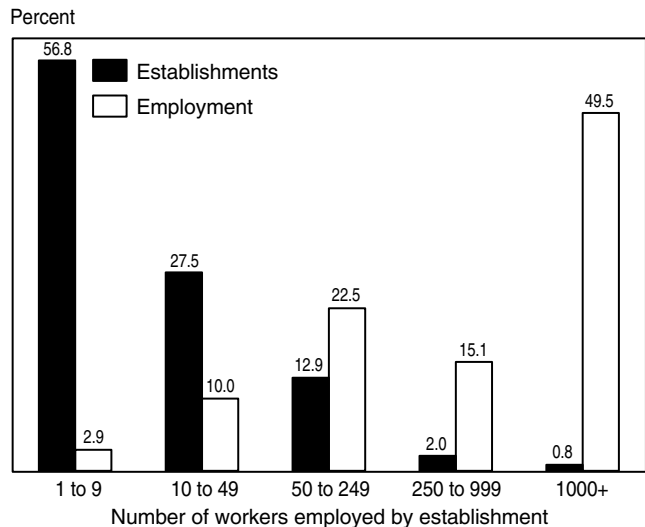
Most air transportation employees work at major airports located close to cities. A substantial proportion of these employees work at airports which serve as central hubs for major airlines, such as New York, Chicago, Los Angeles, Atlanta, San Francisco, Dallas-Fort Worth, and Miami.

Occupations in the Industry

Although pilots and flight attendants are the most visible occupations in this industry, over 80 percent of all employees in air transportation work in ground occupations (table 1). For example, *aircraft mechanics* service, inspect, and repair planes, and *aircraft cleaners* clean aircraft interiors after each flight.

Aircraft mechanics may work on several different types of aircraft, such as jet transports, small propeller-driven airplanes, or helicopters. Many, however, specialize in one section of a particular type of aircraft, such as the engine, hydraulic, or electrical systems. In small, independent repair

Over one-half of all air transportation establishments employ fewer than 10 workers



Source: U.S. Department of Commerce, *County Business Patterns*, 1997

shops, mechanics usually inspect and repair many different types of aircraft.

Many mechanics specialize in scheduled maintenance required by the Federal Aviation Administration (FAA). Following a schedule based on the number of hours flown, calendar days, cycles of operation, or a combination of these factors, mechanics inspect the engines, landing gear, instruments, and other parts of aircraft and perform necessary maintenance and repairs.

Dispatchers plan flights for airlines' crews, analyze weather conditions, and determine fuel requirements and the maximum weight the aircraft can carry. Before flights, they assist pilots by suggesting routes and altitudes and provide them with information on their flight path, such as terrain and weather peculiarities.

Other employees interact with the public. *Ticket and reservation agents* answer telephones, sell tickets, and make reservations for passengers on scheduled airlines. *Customer service representatives* assist passengers, check tickets when passengers board or disembark an airplane, and check luggage at the reception area and insure that it is placed on the proper carrier. They also assist elderly or handicapped persons and unaccompanied children in claiming personal belongings and baggage and getting on and off the plane. They may also provide assistance to passengers who become ill or injured. *Airline security representatives* screen passengers and visitors to ensure that weapons and illegal or forbidden articles are not carried into restricted areas. *Airplane cargo agents* take orders from shippers and arrange for transportation of their goods. *Baggage handlers* are responsible for loading and unloading passengers' baggage. They stack baggage on specified carts or conveyors to ensure it gets to the proper destination, and also return baggage to passengers at airline terminals upon receipt of their claim check. The airline industry also employs many other workers who are found in a wide range of industries, such as lawyers, accountants, managers, secretaries, and general office clerks.

Table 1. Employment of wage and salary workers in the air transportation industry by occupation, 1998 and projected change, 1998-2008

(Employment in thousands)

Occupation	1998		1998-2008 Percent change
	Number	Percent	
All occupations	1,183	100.0	18.3
Operators, fabricators, and laborers	401	33.9	25.8
Helpers, laborers, and material movers, hand	171	14.5	21.9
Truckdrivers	155	13.1	23.8
Administrative support, including clerical	298	25.2	7.2
Reservation and transportation ticket agents and travel clerks	160	13.5	-0.1
Material recording, scheduling, dispatching, and distributing occupations	52	4.4	14.7
General office clerks	16	1.4	25.0
Financial records processing occupations	15	1.2	4.3
Adjustment clerks	12	1.1	35.7
Office and administrative support supervisors and managers	17	1.4	20.4
Precision production, craft, and repair	153	12.9	17.0
Aircraft mechanics and service technicians	87	7.3	14.7
Blue-collar worker supervisors	28	2.4	23.9
Machinery mechanics, installers, and repairers	11	1.0	14.1
Precision production occupations	9	0.8	12.8
Service	135	11.4	25.5
Flight attendants	98	8.3	30.0
Technicians and related	92	7.8	6.3
Aircraft pilots and flight engineers	81	6.8	4.1
Executive, administrative, and managerial	62	5.2	21.4
Management support occupations	18	1.5	22.8
Communications, transportation, and utilities operations managers	16	1.4	23.8
General managers and top executives	10	0.8	20.2
Professional specialty	24	2.1	36.1
Marketing and sales	18	1.5	19.9

Flight crew members make up the remainder—*about* one-fifth—of air transportation employment and include pilots and flight attendants.

Most *pilots* transport passengers and cargo. Others apply chemicals to crops, spread seed for reforestation, test aircraft, and take photographs. *Helicopter pilots* are involved in firefighting, police work, evacuation and rescue efforts, logging operations, construction work, and weather station operations; some also transport passengers.

Except on small aircraft, two pilots usually make up the cockpit crew. Generally, the most experienced pilot, or captain, is in command and supervises all other crew members. The pilot and copilot split flying and other duties such as communicating with air traffic controllers and monitoring the instruments. Some aircraft have a third pilot in the cockpit—

the flight engineer or second officer—who assists the other pilots by monitoring and operating many of the instruments and systems and watching for other aircraft. Most newer aircraft are designed to be flown without a flight engineer.

Most airline flights have one or more *flight attendants* on board. Their most important function is assisting passengers in the event of an emergency. This may range from reassuring passengers during occasional encounters with strong turbulence, to opening emergency exits and inflating escape chutes. More routinely, flight attendants instruct passengers in the use of safety and emergency equipment. Once in the air, they serve meals and snacks, answer questions about the flight, distribute magazines and pillows, and help care for small children and elderly and handicapped persons. They also may administer first aid to passengers who become ill.

Training and Advancement

The skills and experience needed by workers in the air transportation industry differ by occupation. Some jobs may be entered directly from high school, while others require extensive specialized training. Mechanics and pilots must be certificated by the FAA; skills for many other air transportation occupations can be learned on the job.

Pilots must have a commercial pilot's license with an instrument rating and must be certified to fly the types of aircraft their employer operates. For example, helicopter pilots must hold a commercial pilot's certificate with a helicopter rating. Pilots receive their training from the military or from civilian flying schools. Physical requirements are strict. With or without glasses, pilots must have 20/20 vision, good hearing, and be in excellent health. In addition, airlines generally require 2 years of college and increasingly prefer or require a college degree. Pilots who work for smaller airlines may advance to flying for larger companies. They can also advance from flight engineer to co-pilot to captain and, by becoming certified, to fly larger planes.

Applicants for flight attendant jobs must be in excellent health. Employers prefer those who have completed some college and have experience in dealing with the public. Applicants are trained for their jobs at company schools. Training may include crew resource management, which emphasizes teamwork and safety. Advancement opportunities are limited, although some attendants become customer service directors, instructors, or recruiting representatives.

When hiring aircraft mechanics, employers prefer graduates of aircraft mechanic trade schools who are in good physical condition. Most mechanics remain in the maintenance field, but they may advance to head mechanic, and sometimes to supervisor. Most other workers in ground occupations learn their job through a combination of company classroom and on-the-job training. At least a high school education is required for most jobs.

A good speaking voice and a pleasant personality are essential for reservation agents and customer service representatives. Reservation agents also need some keyboard skills. Airlines prefer applicants with experience in sales or dealing with the public and most require a high school education, but some college is preferred. Some advance to supervisor or other administrative positions.

Some entry-level jobs in this industry, such as baggage handler, aircraft cleaner, cabin-service attendant, and food service

worker, require little or no previous training. The basic tasks associated with many of these jobs are learned in less than a week, and most newly hired workers are trained on the job under the guidance of an experienced employee or a manager. However, promotional opportunities for many ground occupations are limited due to the limited scope of the duties and specialized skills of some occupations. Some may advance to supervisor or other administrative positions.

Earnings

Earnings in selected occupations in air transportation appear in table 3.

Table 3. Median hourly earnings of the largest occupations in air transportation, 1997

Occupation	Air transportation	All industries
Aircraft pilots and flight engineers	\$39.32	\$36.81
Communications, transportation, and utilities operations managers	22.40	24.10
Aircraft mechanics	19.28	17.80
First-line supervisors and managers/supervisors-clerical and administrative support workers	16.82	14.26
Truck drivers, heavy or tractor-trailer	16.82	13.08
Flight attendants	16.79	16.82
Truck drivers, light, including delivery and route workers	14.06	9.83
Reservation and transportation ticket agents	11.12	10.41
General office clerks	10.64	9.10
Transportation agents	10.56	10.56

Most employees in the air transportation industry receive standard benefits, such as life and health insurance and retirement plans. Some airlines provide allowances to employees for purchasing and cleaning their company uniforms. A unique benefit—free or reduced fare transportation for airline employees and their immediate families—attracts many jobseekers.

In 1998, 40.1 percent of all workers in the air transportation industry were union members or were covered by union contracts, compared to 15.4 percent of all workers throughout the economy.

Outlook

Wage and salary jobs in the air transportation industry are projected to increase by 18 percent over the 1998-2008 period, about as fast as the average for all industries. Passenger and cargo traffic is expected to increase in response to increases in population, income, and business activity. Employment in other air transportation activities is also expected to rise as more aircraft are purchased for business, agricultural, and recreational purposes.

Air travel has become an affordable means of transportation for more and more people. Demographic and income trends indicate favorable conditions for leisure travel in the

United States over the next decade. An aging population, in combination with growing disposable income among the elderly, should increase the demand for air transportation services. On the other hand, the growth in business travel will be restricted as American corporations continue to downsize and automate operations, eliminating many middle management positions and reducing the base of both current and future business travelers. In addition, communication technologies—such as fax machines, computer networks, and teleconferencing—have somewhat reduced the need for business travel.

Besides job openings created by employment growth, many openings also will arise as experienced workers retire or transfer to other industries. Job opportunities may vary from year to year, however, because the demand for air travel—particularly pleasure travel, a discretionary expense—fluctuates with ups and downs in the economy.

New technology is not expected to have any significant effect on air transportation occupations over the 1998-2008 period; most labor-saving technology already has been introduced and should have minimal impact on future employment. Job opportunities in the air transportation industry are expected to vary depending on the occupation. Pilots understandably have a strong attachment to their occupation because it requires a substantial investment in specialized training and offers very high earnings. Low turnover rates mean fewer job openings and more intense competition among applicants. Customer service representatives and ticket and reservation agents also are expected to face keen competition for available positions because they offer reasonably good pay, the opportunity to travel, and require little education after high school.

Job opportunities should be more favorable among flight attendants and aircraft mechanics. Many of the major airlines have instituted a two-tier wage structure lowering the average

wages of flight attendants significantly, reducing the supply of people wanting to enter the occupation. As a result, opportunities for flight attendants are expected to be good. There should also be an improved outlook for aircraft mechanics over the next 10 years. The smaller numbers of younger workers aged 21 to 34, coupled with the military downsizing and a large number of retirements, points to favorable opportunities for students just beginning technician training. Opportunities will be somewhat better for mechanics working in general aviation than for commercial airlines; mechanics will face competition for jobs at the commercial airlines because these jobs tend to pay more. Opportunities should be better with rapidly growing commuter and regional airlines and at FAA repair stations.

Opportunities are also expected to be good among unskilled entry-level positions, such as baggage handler, aircraft interior cleaner, and food service worker, because the turnover rate of these jobs is usually high.

Sources of Additional Information

Information about specific job opportunities and qualifications required by a particular airline may be obtained by writing to personnel managers of the airlines.

For information about job opportunities in companies other than airlines, consult the classified section of aviation trade magazines or apply to companies that operate aircraft at local airports.

Information on these key air transportation occupations may be found in the 2000-01 *Occupational Outlook Handbook*:

- Aircraft mechanics and service technicians
- Aircraft pilots
- Flight attendants
- Reservation and transportation ticket agents and travel clerks